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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Philippe Hocquet

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04/26/2011

SCHLUMBERGER OILFIELD SERVICES

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EXAMINER

FULLER, ROBERT EDWARD

ART UNIT

PAPER NUMBER

3676

NOTIFICATION DATE

DELIVERY MODE

04/26/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/540,236	Applicant(s) HOCQUET ET AL.	
	Examiner ROBERT E. FULLER	Art Unit 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,10,11,14-17,19 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,10,11,14-17,19 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's submission, filed March 11, 2011, has been carefully considered. Examiner maintains the grounds of rejection set forth in the previous Office Action, and has added a rejection based on 35 U.S.C. 112 in response to the claim amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4, 5, 10, 11, 14-17, 19, and 24-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "consisting of one or more bodies." The phrase "one or more" cannot be used in conjunction with "consisting of." "Consisting of" is a *closed term* which excludes any element, step, or ingredient not specified in the claim (see MPEP 2111.03). Therefore, a concrete number of "bodies" must be specified.

Furthermore, claim 1 recites "the braking shaft consisting of one or more bodies rotatably connected to the braking shaft." This does not make sense. The claim is stating that the braking shaft consists of something other than itself, i.e. the braking shaft consists of bodies connected to itself.

Appropriate clarification and correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 10, 11, 14-17, 19, and 24-27 are rejected under 35

U.S.C. 102(b) as being anticipated by loanesian (US 3,728,040).

With regard to claim 1 as best understood by the Examiner, loanesian discloses a drilling apparatus comprising:

a turbine (1) provided with a turbine shaft (i.e. the section of shaft 7 shown in Fig. 2),

a hydraulic braking device (15) configured to operate with the turbine,

wherein the hydraulic braking device comprises a braking shaft (i.e. the section of shaft 7 shown in Fig. 4) coupled to the turbine shaft, the braking shaft consisting of one or more bodies (13) rotatably connected to the braking turbine shaft, and

wherein when the hydraulic braking device is immersed in a drilling fluid medium, an axial rotation of the turbine shaft causes an axial rotation of the braking shaft which in turn causes a movement of the one or more bodies with respect to the drilling fluid, this movement generating a resisting torque that is a function of the square of the rotation speed of the turbine shaft with respect to the drilling fluid providing a quadratic relation, and

wherein the construction of the hydraulic braking device is such that a braking effect is obtained when the rotation speed of the turbine shaft exceeds a predetermined threshold value and the braking effect is not obtained when under the predetermined value as a result of the quadratic relation (column 3, lines 32-41; column 4, lines 53-66).

With regard to claims 4 and 5, the braking shaft is coaxial with the turbine shaft and the two are combined into a single shaft.

With regard to claims 10 and 11, the bodies are connected to the shaft via a connecting means comprising an anchor zone.

With regard to claims 14-17, the bodies are spaced together in a regular manner, have the same axial positions, are identical, and have the same dimensions.

With regard to claim 19, the braking device (15) is downstream of the turbine (1).

With regard to claims 24 and 25, the bodies extend along a length of the shaft, and in a direction normal to the shaft.

With regard to claims 26 and 27, flow drives the turbine, and that flow is parallel to a length of the bodies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over loanesian in view of Hagen (US 3,880,547).

loanesian fails to disclose a transmission mechanism between the turbine shaft and the braking shaft.

Hagen discloses a braking system (4) for a turbine (2), in which a turbine shaft (10) is connected to a braking shaft (21) via a transmission mechanism (14, 16, etc.— see fig. 1) which enables the turbine shafts and braking shafts to rotate at proportional speeds.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of loanesian to have a transmission mechanism similar to that of Hagen, in order to “augment the brake effort at the power turbine without necessitating fundamental changes to the blading of the power turbine” (column 1, lines 33-38).

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over loanesian.

Ioanesian fails to disclose cup-shaped or V-shaped bodies, however, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the bodies of Ioanesian to be cup or V-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the level of ordinary skill in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Response to Arguments

Examiner notes that applicant's statement on Page 6 of the response filed March 11, 2011 regarding the rejection of claims 24, 25, 28, and 29 was correct. These claims are dependent on claim 1, not claim 23. Therefore, in the previous Office Action, claims 24, 25, 28, and 29 were improperly rejected over the Ranzi reference. Examiner apologizes for this error.

Applicant's arguments filed March 11, 2011 have been fully considered but they are not persuasive. Applicant has argued that Ioanesian fails to disclose a braking shaft that consists of one or more bodies connected to the braking shaft. Examiner respectfully traverses this argument. The braking *device* (i.e. the entire unit that retards the rotation of the turbine shaft) consists of more than just bodies rotatably connected to the turbine shaft, because the braking device also consists of bodies rotatably attached *to the housing*. However, the braking *shaft* (which is just one component of the braking device) does merely consist of bodies rotatably connected to the shaft. The rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT E. FULLER whose telephone number is (571)272-6300. The examiner can normally be reached on Monday thru Friday from 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shane Bomar can be reached on 571-272-7026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3676

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shane Bomar/
Supervisory Patent Examiner, Art
Unit 3676

04/20/2011
/R.E.F./